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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/620,886

07/16/2003

Robert K. O'Leary

PKI-184J

9100

7590

06/16/2004

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EXAMINER

SMITH, JOHNNIE L

ART UNIT

PAPER NUMBER

2881

DATE MAILED: 06/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/620,886

Applicant(s)

O'LEARY ET AL.

Examiner

Johnnie L Smith II

Art Unit

2881

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 1003, 0227.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,939,726 (Wood) in view of US 6,133,569 (Shoda et al). In reference to claim 1-11, Wood shows a high frequency infrared radiation source comprising: a hermetically sealed chamber with a plasma generating gas therein (8); a pair of spaced electrodes (2) in the chamber for creating a plasma there between a window

in the chamber (7). Wood fails to clearly show a collimating lens made of infrared radiation transmissive material disposed between the pair of electrodes and the window, Shoda teaches that use of such a material (figure 1, reference #13). It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such an element since it is shown in the reference of Shoda wherein element 13 is used for sealing chamber 14. Wood further shows the high frequency infrared radiation source in which the plasma generating gas is xenon (column 3 lines 49-53); in which the chamber is defined by a TO can including the window and a TO header which supports the pair of spaced electrodes (column lines 25-30); in which the collimating lens is hemispherical (Shoda figure 1). Wood shows the use of lens selected from the group consisting of sapphire, zinc selenide, germanium, silicon, magnesium fluoride, calcium fluoride, calcium bromide, and cadmium (column 3 lines 46-50); Shoda shows a window element sealed over the window and wherein the collimating lens is disposed behind the window element (figure 1). Wood shows the high frequency infrared radiation source in which the element is coated with an anti reflective material; in which the window element includes metalization and there is a sealing material between the metalization of the window element and the chamber; and in which the sealing material is solder or braze (column 3 lines 42-47).

In reference to claims 12-23, Shoda shows the use of a collimating lens sealed with respect to the window (figure 1); Wood shows the sealing material (column 3 lines 42-47). Wood shows the high frequency infrared radiation source in which the pair of the spaced electrodes (2) are disposed above a support surface further including a pair of posts extending upward from the support surface each having terminal ends which contain an electrode (figure 1A); further including a reflector disposed between the support surface and the electrodes (4). Wood shows a high frequency infrared radiation source in which the electrodes are disposed horizontally across from each other in the chamber; in which the electrodes are disposed vertically with one upper electrode over a lower electrode in the chamber; further including a reflector in the chamber surrounding the upper electrode (figure 1); and in which the reflector includes a gold surface (column 2 lines 35-40). In reference to claims 24-34, Wood shows a high frequency infrared radiation source comprising; a header, a pair of spaced electrodes supported above the header; a can sealed with respect to the header creating a sealed chamber containing the pair of spaced electrodes, the can having a window therein a gas in the chamber which creates a plasma between the electrodes. Wood fails to clearly show an optical path from the plasma through the window including only materials, which transmit infrared radiation. Shoda teaches that use of such a material (figure 1, reference #13). It

would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate such an element since it is shown in the reference of Shoda wherein element 13 is used for sealing chamber 14. Shoda shows where the window is an opening in the can (figure 1) and including an infrared transmissive collimating lens sealed over the opening (figure 1). Wood shows a high frequency infrared radiation source in which the plasma generating gas is xenon (column 3 lines 49-52); in which the header is a TO header and the can is a TO can (column 3 lines 25-27); Shoda teaches the use of a collimating lens between the header and the electrodes (figure 1) discussed above.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patents 6,031,970 (Nordai et al) and 5,438,233 (Boland et al). The cited US patents contain art similar to that being claimed by applicant, more specifically, infrared sources and emitters.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Johnnie L Smith II whose telephone number is 571-272-2481. The examiner can normally be reached on Monday-Thursday 7-4 P.M. and Alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John R Lee can be reached on 571-272-2477. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JLSII

Johnnie L Smith II
Examiner
Art Unit 2881



JOHN R. LEE
SUPERVISORY PATENT EXAMINER
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